

## RESEARCH ARTICLE

# Creating room for evidence-based practice: Leader behavior in hospital wards

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## Abstract

The integration (routinizing and sustaining) of evidence-based practice (EBP) into hospital management is a key element for improving patient safety and ensuring better patient outcomes. Hospital managers and clinical leaders play crucial roles in this integration. Interactions between leaders and integration context influence the improvement's quality, but leader-based actions that are effective for improving nursing practice remain unclear. The relationship between leaders could also either hinder or enable this implementation process. The aim of this study was to generate a theory about patterns of leader behavior that leaders are engaged in when attempting to integrate EBP in a clinical setting. We used a classic grounded theory methodology to generate a substantive EBP theory. In this study, through participant observation, we observed 63 nurses (15 specialist, 39 registered, and 9 assistant nurses). From these, five ward leaders (two head nurses, one assistant head nurse, and two teaching nurses) participated in individual interviews, and 18 clinical nurses participated in four focus groups. "Creating room for EBP" emerged as a theory for explaining the way in which the leaders attempted to resolve their main concern: How to achieve EBP treatment and care with tight resources and without overextending the nurses. Creating room for EBP encompasses a process of interactions, including positioning for, executing, and interpreting responses to EBP.

## KEYWORDS

evidence-based practice, grounded theory, leaders, nurses, research utilization

## 1 | INTRODUCTION

The integration of evidence-based practice (EBP) is a key element for improving patient safety, quality of care, and disease outcomes (Melnyk & Fineout-Overholt, 2015; World Health Organization, 2016). Several theories and models have been developed with the aim of understanding which leader behaviors are most likely to contribute to practice improvement (Greenhalgh, 2018). However,

Ovretveit (2010) could not find any systematic empirical studies that examined which evidence-based (EB) actions are most effective in nursing for inspiring and enabling others to improve their performance. An important consideration in EB actions seems to be the ability of the leaders to be flexible in a given situation or being able to interact with the situation's context. The interaction between the leaders and context may influence the success/outcomes of quality improvement initiatives (Greenhalgh, 2018; Ovretveit, 2010).

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EBP is defined as integrating clinical expertise with the most current and best research evidence into clinical decision making while also considering the specific available resources and the individual patient's preferences in a given situation (DiCenso, Guyatt, & Ciliska, 2005; Polit & Beck, 2016; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). At the organizational level, EBP may assist in developing and integrating EB guidelines. At the individual decision making level, EBP may improve patient treatment and care (Polit & Beck, 2016). It has been suggested that leaders and managers play a key role by modeling EB decisions and that it is essential to recognize clinicians' EBP accomplishments to promote a favorable EBP culture (Aasekjær, Waehle, Ciliska, Nordtvedt, & Hjälmhult, 2016; Dogherty, Harrison, & Graham, 2010; Melnyk, 2014). Organizational factors, including the capacity for change at the organizational level, were also emphasized upon (Atkinson, Turkel, & Cashy, 2008; Flodgren, Rojas-Reyes, Cole, & Foxcroft, 2012). In line with May and Finch (2009), we understand the implementation of EBP as facilitation of the adoption or uptake of EBP within the organization. Integration means the routinizing and sustaining of new practices. In this paper, we focus on routinizing and sustaining EBP and use the term integration to refer to this process. Integrating EBP into daily work in a sustainable manner involves the routinization of new practices within a social context (May & Finch, 2009). This process is determined by the interactions between the characteristics of the evidence, the intended users, and the particular context of the practice (Titler, 2014). A more favorable context, including culture, supportive leaders, and recognition for a job well done, is related to an increase in research utilization (Estabrooks, Midodzi, Cummings, & Wallin, 2007). Organizational culture is defined by the assumptions, beliefs, ideas, and activities that are valued by the organization and expressed in the practitioners' patterns of behavior contributing to the organization's unique social and psychological environment (Scott-Findlay & Golden-Biddle, 2005).

The prerequisites for success in EBP integration include the translation of current research findings in the healthcare setting and their use by healthcare professionals to provide information about and improve their clinical performance (Melnik, 2012). Research findings have suggested that clinical nurses' experience of support from their leaders determines their research utilization (Gurses et al., 2010; Kaplan, Zeller, Damitio, Culbert, & Bayley, 2014; Melnyk, Fineout-Overholt, Gallagher-Ford, & Kaplan, 2012; Sredl et al., 2011; Yoder et al., 2014). Nevertheless, the way in which leaders promote changes in nursing practice remains unclear (Dogherty et al., 2010).

In a recent study, Bender (2016) found that strong managerial leader support and continuous quality work by clinical leaders are essential for improving healthcare quality and safety. Manager is a general term for the executive directors or frontline nurse managers responsible for the daily running of the wards and for leading the staff members who provide direct patient care. Clinical leaders may refer to clinical nurse specialists, advanced practice nurses, nurse educators, or practice developers working in patient care situations (Van der Zijpp et al., 2016). Van der Zijpp et al. (2016) have highlighted the importance of the interactions among different levels of leaders. They found that the relationship between managers and clinical leaders could hinder or enable the

integration process. Nevertheless, few detailed research descriptions of nurse leaders' influence or actions for improvement have been published (Adams & Natarajan, 2016; Dogherty et al., 2010; Ovreteit, 2010). More research on the role of leaders in EBP integration should address both leaders' actions and contextual factors in actual healthcare situations (Best et al., 2012; Bolden, 2011; Greenhalgh, 2018; Van der Zijpp et al., 2016).

Several studies have disclosed barriers in clinical nurses' work environment and among leaders that may hamper the EBP integration process. Among clinical nurses, lack of time, knowledge and skills in EBP are important individual barriers (Chiu et al., 2010; Mallion & Brooke, 2016; Melnyk et al., 2012; Yoder et al., 2014). These barriers influence the leaders' possibilities to succeed when they attempt to integrate EBP in their wards. The organizational culture may also act as a barrier (Bergs et al., 2015; Flottorp et al., 2013). For example, Bergs et al. (2015) found that issues regarding communication and teamwork could hamper the use of surgical safety checklist. Leaders themselves may also be a barrier to EBP integration by not having the necessary capacity, not being engaged or not having a suitable leader behavior style (Flottorp et al., 2013). The relationship between leaders in leader teams may also hinder the integration process (Van der Zijpp et al., 2016). Negative opinion leaders or other leaders may act as barriers in the integration process (Varsi, 2016). Another important barrier is that necessary resources may not be identified or available for the team members. According to Flottorp et al. (2013) this could, for example, be limitations of the information system, lack of patient safety systems or continuing education systems, which may hinder adherence to EBP recommendations.

The context of this study involved a Norwegian hospital trust's executive director decision to implement EBP as a hospital-wide policy in 2006. EBP was implemented by applying different strategies to help clinicians develop competence in EBP and make organizational adjustments (Vandvik & Eiring, 2011). Norwegian hospitals are organized into local health trusts, which may consist of several hospitals (Spehar, Frich, & Kjekshus, 2014). The executive hospital director heads the whole hospital trust. The hospital trust in which this study was conducted had a four-level structure with division, department, and ward managers in addition to the top hospital executive. The ward managers were nurses, while the other managers represented different professions. Many Norwegian hospitals have teaching nurses serving as clinical nurse leaders assigned to their wards. In the present study, we investigated hospital ward leaders' challenges and strategies in managing and facilitating clinical nurses' efforts to integrate EBP into daily practice. The aim of this study was to generate a theory about patterns of leader behavior that leaders are engaged in when attempting to integrate EBP in a clinical setting.

## 2 | METHODS

### 2.1 | Design

This study employed classic grounded theory to collect and analyze data to generate a substantive theory. Grounded theory

methodology is particularly well-suited for performing systematic qualitative research and investigating the complex and latent patterns involved in social interactions (Glaser & Strauss, 1967). In theory development, the participants' main concern and their patterns of behavior surrounding this concern are identified. "Main concern" refers to something with which the participants are occupied and usually involves a challenge or problem (Glaser, 1998). Grounded theory requires researchers to be open-minded, to be aware of and suspend preconceptions, and to trust that the way the participants resolve their main concerns will emerge (Glaser, 1998, 2013).

## 2.2 | Sample and setting

This study took place in two medical wards that treat patients with different diagnoses in two locations in Eastern Norway. This hospital trust provides acute services to 400,000 people at six different geographical sites. The two wards included in the study used two different strategies to integrate EBP into daily work. In one ward, the nurses worked with an EBP project, developing local clinical guidelines, and in the other ward the nurses integrated EB guidelines through the use of huddle board sessions (Table 1). Huddle board sessions are short structural meetings among interdisciplinary health professionals (huddles)

(Glymph et al., 2015) around a whiteboard used as a patient risk assessment tool (huddle board). Forms and checklists were used in risk assessments, and after making observations and measures the nurses were expected to report it by checking off the corresponding item on a report card.

The wards, participants, and methods were chosen via theoretical sampling. In theoretical sampling, a researcher collects and analyzes data, from which patterns emerge that then inform the decisions about which data to collect next, where, and the way in which it should be collected (Glaser & Strauss, 1967). Details about the theoretical sampling process are outlined in the data collection chapter. To ensure the participants' confidentiality, the cities in which the wards were localized, and specifications of their specializations remain undisclosed.

In the study, we observed 63 nurses in participant observations. From these, 18 clinical nurses participated in focus groups, and five leaders participated in individual interviews, including two head nurses, one assistant head nurse, and two teaching nurses, which were all termed "leaders" in this paper. The main areas of responsibility for the leaders are outlined in Table 2.

The leaders' average age was 54.4 years. On average, they had been working 12 years in their present positions. All leaders were female, and four of them had completed additional specialization after their bachelor's degree (awarded after 3 years of university-level

**TABLE 1** EBP integration: An EBP project and huddle board sessions

|              | An EBP project  | Huddle board sessions   |
|--------------|---|---|
| Features     | EBP project ongoing for approximately 2 years, almost finished at the time of data collection   | Huddle board sessions newly integrated into daily work with daily interdisciplinary meetings  |
| Aims         | To develop and integrate local clinical guidelines into daily work  | To integrate EBP/EB guidelines through huddle board sessions  |
|              | To improve clinical practice with new evidence  | To improve clinical practice and reduce patient harm  |
| Initiated by | A nurse with a master's degree and a teaching nurse in the ward initiated and managed the EBP project.  | The senior hospital executives (implemented in several wards in the hospital trust)   |
| Position     | A bottom-up profile   | A top-down profile  |
| Participants | Almost all nurses participated voluntarily in four different groups   | Clinical nurses at work on dayshifts, in interdisciplinary teams  |
| Performance  | The groups worked one at a time, each with a self-determined theme  | Huddle board target areas chosen by a hospital project manager and nurses and physicians in the ward  |
|              | The groups wrote one guideline and an implementation plan for integrating a patient registration scheme into practice   | Use of EB guidelines based on the current best evidence tied to the target areas (Norwegian Ministry of Health and Care Services, 2015)   |
|              | Struggling to integrate new evidence into daily work  |   |
| Learning EBP | In varying degrees, the nurses were knowledgeable regarding asking and formulating questions, literature search, critical appraisal, application of new knowledge, and evaluation in line with the steps of EBP | The clinicians were requested to use the recommendations tied to the chosen target areas and integrate it with their clinical expertise, available resources, and patient preferences for each situation in EBP performance |
| Success      | Learning EBP and becoming more aware of knowledge sources and that they must use the right knowledge  | Using evidence tied to the target areas in daily work but not being conscious about this use  |
| Leader roles | Supporting the project  | Organizing the daily work   |
|              | Organizing the staff to obtain dedicated time for the nurses to work in the groups  | Encouraging clinical nurses to participate in huddles and preparing for the execution of huddles  |

Abbreviation: EBP, evidence-based practice.

**TABLE 2** Leaders' main areas of responsibility with examples of specific tasks

| Head nurse                    | Assistant head nurse   | Teaching nurse  |
|-------------------------------|--|---|
| Management                    | Management and teaching  | Teaching  |
| Economical responsibilities   | Taking over selected tasks and areas of responsibility from head nurse when needed | Daily clinical assistance                                   |
| Organizing daily work         | Taking over parts of teaching nurses' areas of responsibility when needed          | Explaining a procedure                                      |
| Maintaining working schedules | Organizing reflections   | Assisting a clinical nurse in a conversation with relatives |
| Taking care of staff          | Stimulating critical thinking  | Practical training:   |
| Improving quality             |  | Demonstrating and guiding nurses how to perform procedures  |
| Integrating new practices     |  | Guiding the nurses in specific situations as needed         |

education). The specializations equalled 60 or more European Credit Transfer and Accumulation System (ECTS) credits and were either in management or for their wards, were in relevant advanced clinical or professional education. All the leaders had completed EBP seminars some years before the participation in this study but could not recount the content of these seminars in detail.

Specialist, registered, and assistant nurses (15, 39, and 9, respectively) were observed in this study. The specialist nurses' education beyond basic nursing education equalled 60 ECTS credits, except two who had 120 ECTS credits. Their formal roles in the wards did not differ from the roles of registered nurses, even if they had acquired an expert base and clinical competency for advanced practice.

### 2.3 | Data collection

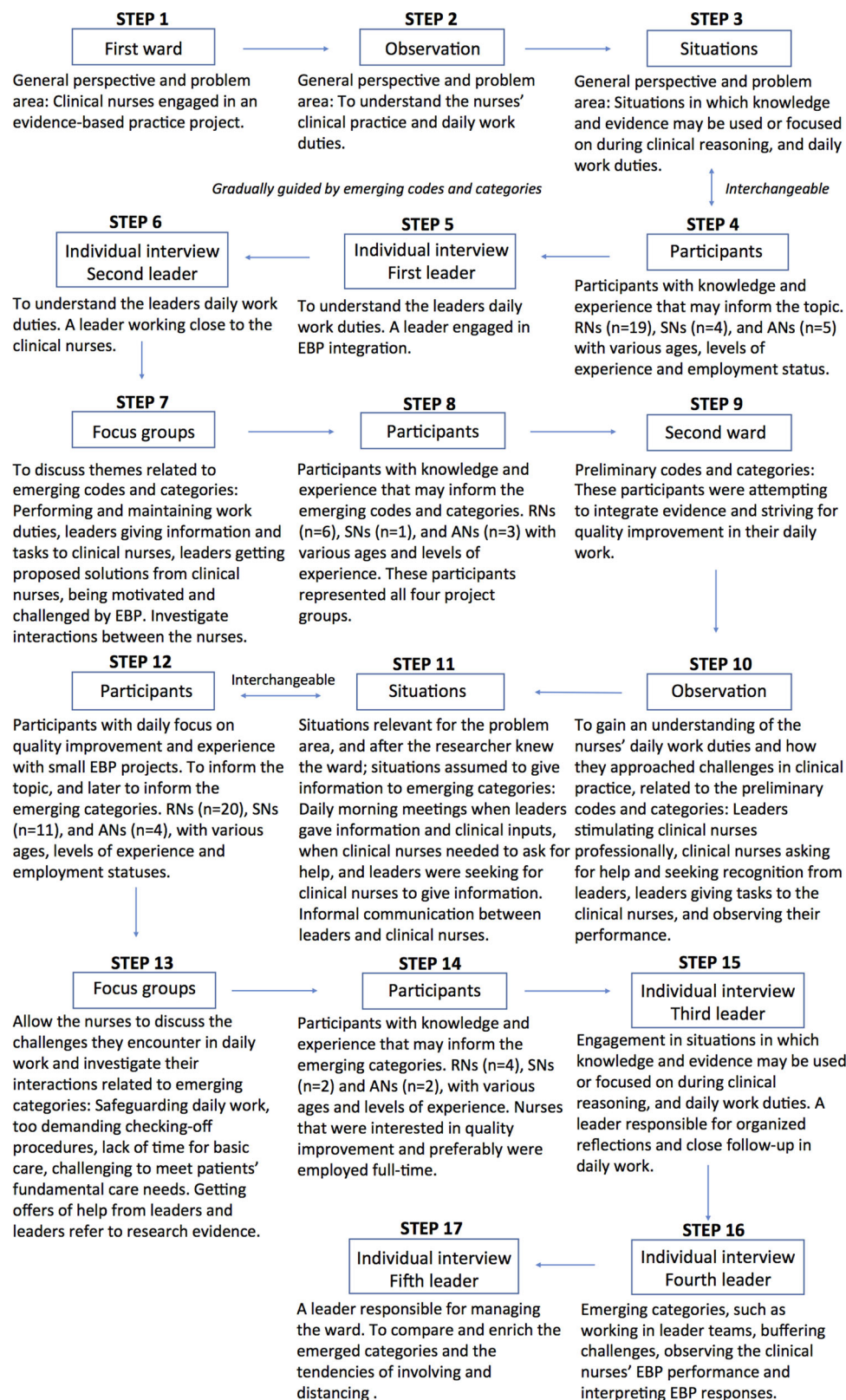
Data in this study were generated by conducting observations, individual interviews, and focus groups in the wards between March 2014 and January 2018. The combination of data collected from observations, individual interviews, and focus groups yielded information about the interactions among the leaders and between the leaders and the clinical nurses. Furthermore, it provided rich, relevant information for the theory's development regarding the clinical nurses' perspectives on their leaders' accomplishments and what they needed from and valued in a leader. The lead researcher in the study was a nurse who had been working in different roles (including a head nurse) at the hospital trust several years before study performance. Her knowledge and interest in the field contributed to the design and study conduct in addition to influencing the choices in theoretical sampling. Before the study, she did not know the participants very well.

Data collection started with participant observations. First, clinical nurses and ward leaders in the first ward were observed. In the last part of the observation period, the first individual interview was conducted with a leader from the ward. In line with theoretical sampling, we then conducted observations, individual interviews, and focus groups successively based on the emerging codes and categories (Figure 1).

Data collection and analysis were performed concurrently based on the principles of grounded theory (Glaser, 1978). In participant observations (such as combinations of direct observation and interactions with the healthcare professionals), the researcher followed clinical nurses during their daily ward-related activities (Creswell, 2013; Polit & Beck, 2016). The researcher wrote both descriptive and reflective field notes during and immediately after the observations (Creswell, 2013). Observations were conducted in 90 hr over 13 weeks. We collected and analyzed data to fit the data collected from the individual interviews with the data collected from the observations and focus groups within the same ward (see the details in Table 4). Furthermore, scheduling time with the leaders was challenging due to their demanding workloads. The same clinical nurses and leaders were involved in the study across the entire data collection period. All clinical nurses and leaders who participated in individual interviews and focus groups were recruited from the group of observed nurses.

This study's first author together with a comoderator performed the first two individual interviews. The comoderator was a nurse with a master's degree and was experienced with interviews in qualitative research. Thoughtful discussions between the two moderators facilitated the development and direction of the following interviews specifically and the study in general. The next three individual interviews were conducted only by the first author. To ensure the participants' comfort, they were interviewed at their respective hospitals in rooms of their choice. The interviews lasted between 51 and 67 min and were audiotaped and transcribed by the researcher afterward. A dynamic thematic interview guide that consisted of mutual themes framed in different ways, themes adjusted to emerging codes and categories and situations observed in the wards was used (Table 3).

We conducted four focus groups in comfortable rooms in each of the clinical nurses' wards. Each focus group consisted of four to five participants and lasted between 55 and 65 min. The first author moderated the focus groups, and SH served as a comoderator. The sessions were audiotaped and transcribed by the first author. The focus group sessions were initiated with an open-ended question about the way in which they had used EBP in their wards and if they



**FIGURE 1** Flowchart of the theoretical sampling process. Modified from: Figure 1 (Renolen et al., 2018, p. 182) [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



**TABLE 3** A dynamic thematic guide for individual interviews: Examples of questions

| Situations  | Questions   |
|---|---|
| The opening question to all participants, formulated in different ways  | How do you experience the integration of EBP in your ward? Can you tell what you have experienced with which to be successful and what has not been a success?        |
| One leader says: "Sometimes the nurses may have the time and could read a guideline or update them in other ways, if it was a culture for that" | How may you influence the culture so as to facilitate that?   |
| The emerging strategy "observing nurses' level of professionalism" and under-strategy "experiences variations in use of guidelines"             | How do the clinical nurses use guidelines in their daily work?  |
| Following up situations from the observation period   | In the observation period, I observed that you played an important role in organizing critical reflection groups. What makes such reflection successful in your view? |

Abbreviation: EBP, evidence-based practice.

could describe a situation in which they had succeeded in facilitating EBP integration and a situation in which they had not succeeded. We used a dynamic thematic interview guide in the focus groups in the same way as in the individual interviews.













## 2.4 | Data analysis

Data were analyzed with open and selective coding as prescribed by grounded theory (Glaser, 1978). In open coding, we coded events from the field notes and transcriptions line-by-line and compared events using the constant comparative method (Glaser, 1978; Glaser & Strauss, 1967). We analyzed the data from this data collection in two parallel arms to generate two grounded theories. First, we developed a theory about clinical nurses' patterns of behavior in EBP integration by analyzing the data

from the observations and focus groups. This theory has been published elsewhere (Renolen, Høye, Hjälmhult, Danbolt, & Kirkevold, 2018). In the second arm, we did a preliminary analysis of the first individual interview with the aim of guiding the second individual interview in the first ward. We then thoroughly analyzed the first two individual interviews together with data from observations and focus groups in both wards after which we conducted individual interviews and analyzed data concurrently to generate a theory about the leaders' patterns of behavior (Table 4).

When we began to sense emerging trends, we directed the coding to events relevant for the preliminary core category, thus performing selective coding. During the analyses, the lead researcher wrote memos, which were reflective notes of the relationships between the data to be used in the theoretical coding for theory generation

**TABLE 4** Schematic overview of data collection and analysis

|                       | Ward 1  | Ward 2  |      |  |   |   |
|-----------------------|---|---|------|--|---|---|
| Time intervals        | 2014  |   | 2015 | 2016   | 2017  | 2018  |
| Observations          |    |  |      |  |   |   |
| Analysis              |    |   |      |  |  |   |
| Individual interviews | X X   |   |      | X X  |   | X   |
| Analysis              |    |   |      |  |   |  |
| Focus groups          | X X   |   | X X  |  |   |   |
| Analysis              |   |   |      |  |  |   |
|                       |  Observation period  Analysis period |   |      |  |   |   |
|                       | X One individual interview or focus group   |   |      |  |   |   |

(Glaser, 1978). Initially, ÅR coded the data and ÅR and EH discussed the preliminary codes and categories. Afterwards, all authors scrutinized and discussed the transcribed interviews, codes, and categories. In the analysis, after the fourth individual interview was completed, we came to an agreement to conduct another interview with a leader from the second ward. Due to practical reasons, this could not be done before January 2018. Data collection stopped when no new categories emerged, and theoretical saturation was achieved. The theoretical coding was continued to conceptualize the categories and strategies on a more abstract level. An example of the coding process is outlined in Table 5.

## 2.5 | Ethical considerations

Approval from the Regional Committee for Medical and Health Research Ethics was requested, but the study was exempted from the need of their approval (reference number 2014/35A). The Data Protection Officer for Research and Quality (reference number 2013/17344) and the hospital in which the study was performed (reference number 201200448-27) reviewed and approved the study. The leaders from Wards A and B also approved the study. The participants were informed about the study and its purpose by their leaders and the lead researcher. The lead researcher recruited the participants into the focus groups and individual interviews by asking the participants personally while concurrently obtaining written informed consent. All procedures were conducted in accordance with the Declaration of Helsinki.

## 3 | RESULTS

On the wards, the leaders' and the clinical nurses' overarching goal was to provide patient treatment and care in the best possible way. Through generation of a substantive grounded theory, we found that the leaders' main concern regarding integration of EBP was how to achieve EB patient treatment and nursing care with tight resources and without overextending the nurses. The main strategy used to resolve this main concern could be expressed by the following general pattern of leader behavior: Creating room for EBP in management and nursing care. "Creating room for EBP" was the concept of leader behavior that involved actively making EBP capacities in their wards. The emerging grounded theory of creating room for EBP included three strategies positioning for EBP, executing EBP, and interpreting EBP responses.

### 3.1 | Conditions for creating room for EBP

We identified three main conditions that influenced the leaders when creating room for EBP. One condition described organizational premises, such as institutional rules, routines, and standards, as determinants for management and nursing care. The leaders operated within the boundaries set by limited resources and lacked a good system for instigating change. Second, the organizational culture was characterized by standardizing treatment and care practices and by focusing on task accomplishment. This led to a prevailing attitude of practical tasks being viewed as "real" work. Furthermore, nurse staffing was planned according to daily practical

**TABLE 5** Data processing

| Transcriptions and field notes   | Open coding  | Selective coding   | Category                    |
|--|--|--|-----------------------------|
| <i>Individual interview:</i><br>Moderator: "In the observation period, I observed that you played an important role in organizing regular critical reflection groups. What makes such reflection successful in your view?"<br>Leader: "One has to control the reflection to adhere to the issue. For example a patient situation experienced difficult by a nurse who wants to share this experience and get some feedback from her colleagues. I think it is important to keep the focus and not just talk."              | Organizing reflections<br><br>Guiding the reflections<br><br>Keeping a professional focus                              | Inspiring to participate in regular critical reflection<br><br>Stimulating professional engagement | Stimulating professionalism |
| <i>Observations:</i> Leader at the morning meeting: "Keep in mind to use the non-slip socks, but remember it is not instead of shoes."<br>Leader at the morning meeting:<br>"At the staff meeting yesterday we had a question regarding use of facemasks. Nurse A, could you say something about it?"<br>A: "To protect the patient in a procedure taking two or three minutes, use the green facemask. Use the pink facemask if the procedure takes longer or in the case of airborne infections. That is the main rule." | Reminding the nurses of a clinical issue<br><br>Addressing the evidence precisely<br>Holding expert nurses responsible | Providing for regular professional updates   |                             |
| <i>Individual interview:</i><br>"We have been working in groups with an EBP project that ended in some EB guidelines, which we try to implement into daily work. But to search for literature during daily work—we are not quite there yet. Focusing on EBP has been a goal in the groups."  | Encouraging the nurses to search for research literature<br>Teaching EBP<br>Focusing on EBP                            | Focusing on EBP  |                             |

Abbreviation: EBP, evidence-based practice.

tasks. Conditions that could make room for EBP were the clinical nurses' valuing high professional standards and the experience of having some success using EBP. The third main condition was that the clinical nurses continuously carried huge workloads, which required working at a fast pace with insufficient time available for EBP/quality improvement. Moreover, they lacked the required resources, such as sufficient computers and optimal working spaces, to integrate EBP. Due to these conditions, there was neither the necessary time nor capacity for EBP, mandating the need to create room for EBP. Creating room for EBP was a dynamic process in which the leaders juggled strategies with continuous consideration of the actual challenges arising during the daily workflow.

### 3.2 | Positioning for EBP

The concept of positioning for EBP emerged as the first strategy in the process of creating room for EBP. The leaders started to create room for EBP "outside" of the clinical nurses' workflow by making themselves capable of managing EBP within the existing conditions. The leaders managed this process by using three substrategies: ensuring their own capacity, working in leader teams, and being ready for the effort. They ensured their own capacities by capitalizing on their years of experience as leaders in their present positions and earlier participation in EBP seminars. They demonstrated an understanding of and motivation for integrating EBP. When working in leader teams, the leaders structured their work by collaborating and strategically dividing tasks and responsibilities. They cooperated and interacted with each other, thus taking advantage of each other's resources and ensuring that each individual knew the way in which to contribute. One leader described how they created cooperation structurally in their leader team to position themselves for EBP integration:

*We organized team meetings but canceled several of them because of huge workload .... Then I said: We need to go through with these meetings. And now we arrange meetings about every second week. We get much more structure, knowing who does what and which clinical issues need to be followed-up. (Individual interview)*

The head nurses were responsible for EBP management but used feedback from the teaching nurses to be able to make the best decisions. In one instance, for example, a teaching nurse was helping a clinical nurse to solve a clinical issue in the ward. Simultaneously, she observed that two other nurses were struggling to comply with a new EB recommendation. Afterwards, the teaching nurse told the ward leader about this situation, giving the head nurse the opportunity to organize the work in a way that gave these nurses allocated time to read and understand the EB recommendation.

Furthermore, the leaders became ready for the effort by handling the demands and tasks assigned to them by the division and department managers. They looked for clinical benefits of EBP

integration by mapping out the nurses' interest for EBP and use of EB knowledge. The following quotation from a conversation between a leader and two clinical nurses demonstrates this.

*Leader: It is important that you can demonstrate that you use research evidence in clinical situations.*

*Nurse A: It has to fit with our daily work. Some things may only be done one particular way [according to the current policy in our ward/hospital], but in a national guideline we have found possibilities to shorten the infusion time of a medicine.*

*Nurse B: Other hospitals give this medicine to outpatients. According to the guidelines, this is possible here as well. We need to change our practice. (Observation)*

The leaders also adjusted their own workloads to promote EBP integration. They assessed which tasks were most useful for the patients and the wards. For example, the leaders assessed when to guide the nurses not to choose unnecessary, routine tasks, and rather complete the tasks most essential for EBP. The leaders also changed their own routines to the best for the nurses and made themselves available to them. Thus, they could use their positions to adjust EBP integration to the clinical nurses' daily work: "By being more experienced, I can aid the nurses to search for research evidence or guidelines. Furthermore, I may participate in clinical discussions or ethical reflections." (Individual interview)

### 3.3 | Executing EBP

The executing EBP pattern encompassed stimulating the nurses professionally, struggling with daily EBP challenges, and buffering these challenges. This strategy in creating room for EBP was connected to the clinical nurses' workflow and influenced their daily practice. In the first strategy, the leaders sought to inspire the clinical nurses professionally by focusing on EBP and promoting the use of national guidelines as the basis for evidence in clinical practice. They encouraged the nurses to report patient safety incidents and participate in regular critical reflections. As one of them explained:

*We have considered how to make EBP advantageous. How can we motivate the clinical nurses to feel that searching for literature may be useful and interesting? The most important thing is to motivate them to ask questions, to be critical and to think. [Help them see that] they may find answers that can lead to changes in practice. (Individual interview)*

Furthermore, in EBP, the leaders continuously struggled with daily practical challenges, such as integrating new projects and maintaining existing routines. For example, there was almost no time for professional teaching activities or for the nurses to participate in



seminars. Thus, the leaders had to ask the nurses to attend training in their spare time in the afternoons or on their days off. This request contributed to the need for compensatory time-off from an already tight work schedule, which was not always easy to accommodate. Taken together, this entire process was very challenging, as highlighted in the example below:

*Two clinical nurses had been revising an EB standardized care plan for months and were almost finished. They now needed some time to finish this task and asked the head nurse for 2 hr allocated time each. The answer was that it was not possible because of staff shortage. They were tired of not getting finished and decided to complete the work in their spare time this afternoon. The nurse sighs: "It is not for my sake we are doing this." (Observation)*

To minimize these kinds of situations, an important strategy in terms of executing EBP was the leaders' buffering of the nurses' challenges in managing EBP integration. In this context, "buffering" refers to enacting measures to intercept or moderate any adverse influences or pressures to which the clinical nurses were exposed. The following example illustrates this "buffering" strategy: The clinical nurses were frequently observed complaining that they felt more pressure to complete standardized routine procedures mandated by the hospital-wide patient security policy than addressing individual needs of their patients. In response, the leaders would help the clinical nurses address this dilemma by adjusting the expectations. When appropriate, the leaders would tell the nurses to skip a routine task and rather prioritize performing individualized EBP to a seriously ill patient. Additionally, the leaders modified routines, helped the nurses with practical tasks, and supported them by providing a sense of security when undertaking unfamiliar tasks. They also tried to get the nurses to engage professionally with the physicians by supporting them to insist on sharing responsibilities with the physicians during pre- and regular rounds, thereby decreasing the burden on the nurses. For example, this process occurred when the leaders believed that the nurses were assigned too heavy a responsibility for unstable patients without adequate involvement of the physicians: "I have told the nurses that they have to get the physicians to define which patients they need to follow closely. Further they must have the physician affirm which checking offs they need to prioritize for each patient." (Individual interview)

The leaders also tried to give the nurses some time set aside from their daily workflow to work with EBP and requested that the nurses ask for help to complete assigned tasks when needed. As such, the leaders also organized activities without directly involving themselves into the nurses' work. The findings suggested that when the leaders were working closely with the nurses' workflow, they could better support them and identify more easily the adjustments that were needed to continuously promote EBP integration.

### 3.4 | Interpreting EBP responses

In the third strategy, the leaders created room for EBP by interpreting EBP responses. This strategy was an emerging concept reflecting the leaders' handling of feedback from the nurses, observing the nurses' professional performance, and considering the consequences of EBP integration. The leaders handled nurses' feedback, mostly by answering EBP-related questions arising during their daily work. For example, when the nurses asked for help finding specific knowledge, the leaders had more opportunities than the nurses to find time to search for that knowledge. The leaders also received patient safety incident reports and formal complaints from the nurses or from other departments and hospitals. Leaders acted based on these reports and complaints and discussed patient safety incidents and EBP with the nurses as a learning strategy. The following example illustrates this process:

*The leader informs the clinical nurses about a safety incident received from another hospital regarding a central vein catheter. A clip was open, and redness was observed at the exit site. The leader could not find any relevant information in the medical record about the care of the central vein catheter. She discusses this with the staff and underlines the importance of using the available EB guideline and correct documentation. She explains how to do it. (Observation)*

In the second substrategy, the leaders observed the nurses' professional performance and provided feedback. For example, when a teaching nurse observed a clinical nurse trying to search for EB knowledge, she contributed with support, knowledge and time, thereby encouraging EBP integration by demonstrating her interest in the nurse's EBP efforts. However, the leaders had many nurses to observe and they did not always know if the nurses updated themselves or if it was accepted among them to search for literature during their daily work. Much of what the leaders concluded from their observations was based on what they believed about the nurses' behavior, but they recognized that the current system was not optimal: "We lack a system to affirm that the nurses read a guideline, for instance a digital registration. For example, when we link a guideline in information e-mails, we don't know if anyone reads the guideline." (Individual interview)

The third interpretation-related EBP substrategy used by the leaders was to consider the consequences of EBP integration—that is positive outcomes as well as no or negative outcomes. They used this information to further consider how to facilitate EBP. For example, they could see professional clinical benefits when the nurses gained an increased awareness regarding their use of knowledge or when the nurses applied EB measures during problem solving. However, sometimes the leaders observed less use of EB guidelines than they expected after the EBP integration process and they experienced patient safety issues not being discussed. The leaders discussed these results and used them to inform which strategies to use in terms of creating room for EBP.

In creating room for EBP, the leaders also needed to address the potential conflict of applying standardized EBP routines and procedures to ensure patient safety generally and ensure high quality care by addressing the needs of individual patients. From their observations, the leaders believed that the nurses often prioritized routines and standard safety reports ahead of other tasks and assumed that it was the most experienced nurses who dared to prioritize other tasks ahead of the “check offs”. Although the leaders supported the application of EB routines and standardization, they also worried that there were too many “check offs” for the nurses to make and that this process would impede their ability to complete the tasks most essential for individual patients’ care. Clinical nurses’ and leaders’ thoughts illustrate this dilemma.

*Nurse A: We spend more time on “check offs” than we spend on the patient.*

*Nurse B: Yes, it is demanding with all the reporting, it is detrimental to basic nursing care. The leaders refer to research evidence, but I think this takes too much time. We will not be able to follow-up, and just as you say, it takes up the time from the patients. The stronger you are professionally and the more careful you are with your work, the faster you will fall short of your own expectations. (Focus group)*

*Leader: Quality improvement may be reached by routines and “check offs”. But it does not help if the nurses use their time on checking everything on each patient and do not have the time to observe parameters that cannot be measured or ticked off. It is important to have good routines, but I think it has become too much. (Individual interview)*

The leaders could use these observations further to understand how to buffer the clinical nurses’ challenges. When the leaders interacted with the nurses, they were able to make more direct observations and obtain greater possibilities to consider, understand, and influence practice.

## 4 | DISCUSSION

In this study, we aimed to generate a theory about the patterns of leader behavior that leaders are engaged in when attempting to integrate EBP in a clinical setting. We found that the theory of creating room for EBP was used by leaders to resolve their main concern: how to achieve EB patient treatment and care given their tight resources and without overextending the nurses. The process of creating room for EBP included three strategies positioning for EBP, executing EBP, and interpreting EBP responses. In this study, we discuss the way in which the leaders’ main strategies may influence EBP integration.

### 4.1 | Strategies used within leader teams in creating room for EBP

In positioning for EBP, the team members interacted to promote this integration process. The leaders focused on cooperation and took advantage of each other’s resources. Other research found that leaders’ interest in supporting and following up with clinical leaders and the staff’s participation were important towards enabling the EB guideline integration process (Van der Zijpp et al., 2016). Engagement and enthusiasm from key personnel within leader teams have been described as important for success in integrating EBP or research evidence. Engaged opinion leaders, implementation leaders, or champions working in close collaboration with the leader teams may also influence such success (Abbott, Foster, Marin, & Dykes, 2014; Flodgren et al., 2011; Mair et al., 2012). The leaders also focused on preparing themselves for managing and helping the nurses with less focus on the cooperation and roles of the team and less visible engagement in the nurses’ daily work. In line with van der Zijpp et al. (2016), a managerial leader’s lack of interest and/or engagement represented a barrier to the clinical leader’s engagement. Furthermore, a lack of collaboration among the different levels of management hindered EBP integration (Van der Zijpp et al., 2016; Varsi, 2016). Although not identified in our study, one must also keep in mind that critical or negative opinion leaders may also act as barriers to the integration (Varsi, 2016). On the basis of our findings and other research, we argue that engagement and interactions within a leader team seems to have enabled the EBP integration process.

### 4.2 | Strategies influencing the clinical nurses’ workflow in creating room for EBP

In executing EBP and interpreting EBP responses, the strategies more or less influenced the clinical nurses’ workflow. This workflow could be understood as “... a continuum of work tasks that the nurses carried out to support medical treatment, care for the patients, organize the ward, cooperate with colleagues and maintain oversight and control, while simultaneously being a good professional and colleague” (Renolen et al., 2018, p. 184). By intervening in the clinical nurses’ workflow, the leaders were stimulating the nurses with EBP activities and tasks while concurrently buffering the nurses’ challenges to avoid nurse overextension. The leaders worked together, in close proximity to the nurses’ daily work, so they could sense the optimal course of action for the nurses. They conducted direct observation of the clinical nurses’ work, which gave the leaders opportunities to obtain useful information from clinical practice. This could enhance the leaders’ ability to interpret what was happening and to provide appropriate responses. To integrate changes in practice, Stetler, Ritchie, Rycroft-Malone, and Charns (2014) highlighted the need for multifaceted leader behavior when supporting EBP. This leader behavior reflected system-oriented thinking, operational leader actions, and a combination thereof. Related to interactions between leaders and clinical nurses, several decisive

factors within the operational leader actions were identified. These included inspiring and inducing behaviors and involvement with the staff and EBP activities (Stetler et al., 2014). These findings, among others, imply that involvement and interaction with the nurses is more likely to result in successful EBP integration (Gurses et al., 2010; Ploeg et al., 2014; Stetler et al., 2014).

Our findings also suggest situations in which the leaders seemed to be less capable of considering and identifying adjustments that were needed for EBP integration. The leaders could give the nurses allocated time or tell them to ask for help when needed. The leaders' observations of clinical nurses' daily work were limited; therefore, the opportunities to adjust their responses to these observations were scarce. In line with the findings of Åkerlund (2017), leaders may have little practice or experience with observing the way in which their staff is performing and how they may influence their fellow workers. On the basis of these considerations, we argue that engagement in nurses' workflow might confer a greater likelihood of not overextending the nurses with respect to EBP integration. Another perspective indicates that involvement in clinical nurses' workflow seems to be tightly connected to facilitating EBP integration and teamwork. Leaders that facilitate their teams demonstrate support for both learning and action (Greenhalgh, 2018). Leaders that put effort into facilitating their team and the necessary tasks and are close to the team members may have success in the process of establishing new routines (Edmondson, Bohmer, & Pisano, 2001; Greenhalgh, 2018). Leaders with little emphasis on teamwork and with a focus on allocating tasks and getting results from the teams more than being a team member are less likely to succeed in changing a routine (Edmondson et al., 2001; Greenhalgh, 2018).

### 4.3 | Strengths and limitations

A strength of this study is that the overall empirical data from the observations, individual interviews, and focus groups reinforce the patterns of leader behavior. By being workable and having relevance, the theory explains the action and the relationships between the actions in the substantive area. Because we investigated only two hospital wards in one hospital trust, we must be cautious in terms of applicability and transferability to other hospital wards even though our study was conducted in two different geographical sites. Our sample size of leaders in this study was small. We have discussed the need for interviewing more leaders to ensure saturation (Glaser, 1978, 1998). However, this would have required us to go outside the wards or to include leaders without direct daily contact with the clinical nurses. This could conflict with the principles of theoretical sampling and emerging concepts.

### 4.4 | Implications for clinical practice and research

The grounded theory of creating room for EBP contributes to a better understanding of the patterns of leader behavior when leaders attempt to integrate EBP into their wards. The theory reveals the

importance of the strategies for the leaders' capacity and ability to create room for EBP without overextending the nurses. Based on this knowledge, we suggest that the direction for future research should be to explore interactions between leaders and nurses in EBP integration. This could serve to further enhance the leaders' knowledge regarding the way in which clinical nurses respond to EBP integration activities and to better adjust EBP integration to clinical practice.

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### CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

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